



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,155	12/09/2005	Yasushi Washio	SHIGA7.034APC	9483

20995 7590 05/29/2007  
KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER
----------

LE, HOA VAN

ART UNIT	PAPER NUMBER
----------	--------------

1752

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

05/29/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

## Office Action Summary

Application No.

10/560,155

Applicant(s)

WASHIO ET AL.

Examiner

Hoa V. Le

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

This is in response to Papers filed on 17 May 2007.

I. The record shows that applicants have to amend the claims in response to the Office action mailed on 26 April 2007.

II. Claims 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (5,985,525) considered in view of Kanda (2003/0091732).

Sato et al disclose, teach and suggest a developer composition and its use. The composition comprising a sufficient amount of an organic quaternary ammonium base and a sufficient amount of ammonium salt(s) of an alkyl diphenyl ether sulfonic acid. Please see the whole disclosure of each of the applied references, especially in Sato et al at col.2:11 to 3:55, 4:26-60, 5:12-16.

Sato et al discloses, teach and suggest an inclusion of known additives but fail to specify low alcohol and its amount. However, it is known in the art to use (1) from about 1.0 to 20 wt% of methanol and/or ethanol being based on from about 0.01 to 10.0 wt% of a surfactant for the advantage of rapidly dissolving a surfactant in an aqueous solution or (2) a mixture of methanol and/or ethanol as an

Art Unit: 1752

organic solvent and water in a ratio of from about 1 to 99 for the advantage of rapidly dispersing an organic material in a soft portion of a photopolymer layer on a developing photoresist layer in the art. Evidence can be seen in at least Kanda at paragraph 0003, 0004, 0005, 0011, 0016, 0018, 0027 and claim 8.

Since the above references are generally related to developer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use, include or cited the use of methanol and/or ethanol for a reasonable expectation obtaining the advantages of rapidly dissolving a surfactant in an aqueous solution and/or rapidly dispersing an organic material in a soft portion of a photopolymer layer on a developing photoresist layer in the art as disclosed, taught and suggested in Kanda.

Applicant's arguments filed 17 May 2007 have been fully considered but they are not persuasive.

Applicants urged that one having ordinary skill in the art at the time the invention was made would not use the combined teachings and suggestions of Sato et al (5,985,525) as primary reference considered in view of Kanda (2003/0091732) as secondary reference as applied on the record. However, the

Art Unit: 1752

record shows that applicants have to made the amendment of the above applied references in the response filed on 17 May 2007.

III. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (5,985,525) considered in view of Kanda (2003/0091732) and Takamiya (6,511,790).

Sato et al disclose, teach and suggest a developer composition and its use. The composition comprising a sufficient amount of an organic quaternary ammonium base and a sufficient amount of ammonium salt(s) of an alkyl diphenyl ether sulfonic acid . Please see the whole disclosure of each of the applied references, especially in Sato et al at col.2:11 to 3:55, 4:26-60, 5:12-16.

Sato et al discloses, teach and suggest an inclusion of known additives but fail to specify low alcohol and its amount. However, it is known in the art to use (1) from about 1.0 to 20 wt% of methanol and/or ethanol being based on from about 0.01 to 10.0 wt% of a surfactant for the advantage of rapidly dissolving a surfactant in an aqueous solution or (2) a mixture of methanol and/or ethanol as an organic solvent and water in a ratio of from about 1 to 99 for the advantage of rapidly dispersing an organic material in a soft portion of a photopolymer layer on

Art Unit: 1752

a developing photoresist layer in the art. Evidence can be seen in at least Kanda at paragraph 0003, 0004, 0005, 0011, 0016, 0018, 0027 and claim 8.

Sato et al fail to specify a small amount of a halogen containing compound as that in the newly added claim 9. However, it is known in the art at the time the invention was made to include a small amount of the halogen containing compound for a surfactant additive property in a developing composition.

Evidence can be seen in at least Takamiya on col.7:66 to 8:10, 13-17 and 26-35.

Since the above references are generally related to developer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use, include or cited the use of methanol and/or ethanol for a reasonable expectation obtaining the advantages of rapidly dissolving a surfactant in an aqueous solution and/or rapidly dispersing an organic material in a soft portion of a photopolymer layer on a developing photoresist layer in the art as disclosed, taught and suggested in Kanda and halogen containing compound for a reasonable expectation of obtaining an additive surfactant property in a developing composition as disclosed, taught and suggested in Takmiya.

Applicant's arguments filed 17 May 2007 have been fully considered but they are not persuasive.

Applicants point out that there are some advantages in the showings in the instant application. They have been fully considered but have and are given a little value for an allowance or patentability of the claims as broadly disclosed.

(1) Since applicants rely on the results of the showings for the patentability of the instantly broad claims, an allowed claim or patent would have no value when someone shows that there is at least one broad embodiment in a claim, such as 0.000 1% by mass of an organic quaternary ammonium as broadly read and considered in claims 1, 4-6 and 8-9, would not provide the same or obviously less result than one of the showing.

(2) Since applicants rely on the results of the showings for the patentability of the claims, the claims must be read in light of the showing results of from excellent A to good B as shown in Examples 1-22.

(3) The instant claims have not been reasonably read on the use of about 2.38% by mass of tetramethylammonium as tested.

(4) The instant claims have not been reasonably read on the use of about alkyl of about C<sub>5</sub> to C<sub>15</sub> in the diphenyl ether anionic surfactant as tested.

(5) The instant claims have not been reasonably read on the use of about 1000 to 50 000 ppm of C<sub>5</sub> to C<sub>15</sub> in the diphenyl ether anionic surfactant as tested.

Art Unit: 1752

(6) The instant claims have not been reasonably read on the use of about 700 to 5000 ppm of sulfate ions as tested.

(7) There is no criticality for a patentability of using less than about 0.05 or more than about 2.5% by mass of a low alcohol. Please see Examples 13, 14, 15, 21 and 22.

(8) There is no criticality for a patentability of using less than about 300 or more than about 1000 ppm of halogen ions. Please see Examples 13, 14, 15, 16, 17 and 18.

For one or more of the above reasons, the showing are much narrower than those in the instantly broad claims. Accordingly, the showing are incomplete and have little value for a patentability of the instantly broad claims.

It would like to see results to be carried out with:

(i) about 0.0001 and 30% by mass of an organic quaternary ammonium as broadly read and considered in claims 1, 4-6 and 8-9, and about 10% by mass of an organic quaternary ammonium for claim 7.

(ii) two alkyls of about C<sub>18</sub> and one sulfonate ammonium in the diphenyl ether anionic surfactant in an amount of about 500 ppm as broadly claimed,

(iii) about 10 and 10 000 ppm of sulfate ions, and



(iiii) about 1000 ppm of halogen ions for a reasonably complete record of the instantly broad claims.

A showing should and must be submitted in the next response to this Office action in order for it to be considered timely.

IV. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa V. Le whose telephone number is 571-272-1332.

The examiner can normally be reached from 6:30 AM to 4:30 PM on Monday through Thursday and about the same time of most Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526.

Applicants may file a paper by (1) fax with a central facsimile receiving number 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

Art Unit: 1752

<http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoa V. Le  
Primary Examiner  
Art Unit 1752

HVL  
22 May 2007

HOA VAN LE  
PRIMARY EXAMINER  
*Hoa Van Le*